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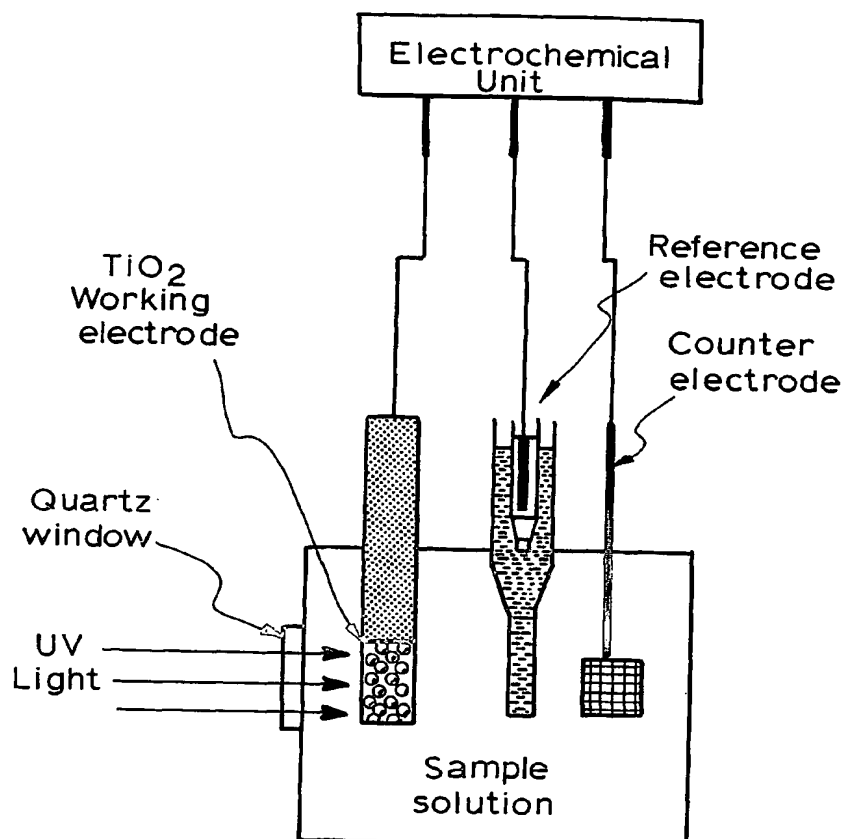
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(54) Title: PHOTOELECTROCHEMICAL DETERMINATION OF CHEMICAL OXYGEN DEMAND



(57) Abstract: A method for determining chemical oxygen demand of a water sample comprises the steps of (a) applying a constant potential bias to a photoelectrochemical cell, having a photoactive working electrode (e.g. a layer of titanium dioxide nanoparticles coated on an inert conductive substrate) and a counter electrode, and containing a supporting electrolyte solution; (b) illuminating the working electrode with a light source and recording the background photocurrent produced at the working electrode from the supporting electrolyte solution; (c) adding a water sample, to be analysed, to the photoelectrochemical cell; (d) illuminating the working electrode with a light source and recording the total photoelectrocurrent produced with the sample; (e) determining the chemical oxygen demand according to the type (exhaustive or non-exhaustive) of degradation conditions employed. An apparatus for carrying out the method is also claimed.



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